**EPA Technical Comments on Workman Branch Surface Mine (LRH 2020-797-BCR)**

*Minimization*

The alternatives analysis documents avoidance of aquatic resources by evaluating multiple mining methods as well as disposal options and locations for the excess overburden. The documentation also includes a description of operational measures, such as constructing the valley fill using a bottom-up approach, to minimize potential effects to aquatic resources. While the information is helpful for reviewing the project, it is not clear what possible water treatment would be employed, if necessary, to maintain and meet applicable effluent and water quality standards. EPA recommends including additional explanation of this treatment to assure that minimization opportunities have been fully vetted to support the least environmentally damaging practicable alternative (LEDPA) determination.

*Secondary and Cumulative Impacts*

The mining proposal plans to construct two (2) valley fill/ overburden disposal structures, two (2) in stream sediment control ponds, and two (2) clean water diversion channels within the Workman Branch, Old House Branch, and their unnamed tributaries, which are both tributaries of the Big Coal River via Pond Fork and the Little Coal River. Filling streams is not only a direct loss of aquatic habitat, but likely leads to secondary and cumulative impacts to the biogeochemical and hydrologic conditions of the receiving streams and could exacerbate the already impaired waters of Pond Fork, which this project drains. Therefore, EPA recommends an evaluation of the Factual Determinations as described at 230.11 and associated subparts, including the potential for secondary effects downstream of the fill and cumulative effects within the watershed.

It is EPA's understanding that the National Pollutant Discharge Elimination System (NPDES) permit application, including the Aquatic Ecosystem Protection Plan (AEPP), is currently under review by WVDEP. Should a CWA 404 permit be proffered, EPA recommends it reference the completed AEPP, including baseline biological sampling, monitoring plan, and adaptive management plan, as special conditions of the CWA 404 permit to help address concerns about secondary and cumulative effects, potential for significant degradation, and to maintain program integrity.

*Mitigation*

Once it is determined that the applicant has taken all appropriate and practicable steps to avoid and minimize adverse impacts, compensatory mitigation is then considered. The applicant proposes to mitigate for permanent impacts by establishing and re-establishing approximately 5,751 linear feet of intermittent and perennial stream channels at the site and to purchase 0.68 wetland mitigation bank credits from an approved mitigation bank within the Coal River watershed. The best information available to EPA suggests that stream channels established after the mining operation concludes may not gain the full functions of the resources eliminated and may have negative effects on downstream aquatic resources. Based on the information available for review, it is not apparent that the proposed compensatory mitigation will sufficiently offset the loss of the aquatic resources and their functions as a result of the project and create lift within the watershed to replace these losses. For example, the mitigation at maturity column in the Stream and Wetland Valuation Metric (SWVM) has values less than the baseline information of the aquatic resources proposed to be impacted. Documentation should be provided to explain how the mining activities, even if reclaimed, will not impact the proposed onsite mitigation or downstream resources.

Additionally, the 2008 Mitigation Rule discusses various mitigation options available to offset impacts, with a preference for use of mitigation bank credits to help reduce risk, uncertainty, and temporal loss of resource functions. The documentation available for review lists mitigation banks with the primary and secondary service

areas that cover this proposed project. Therefore, EPA recommends utilizing any available mitigation bank credits, in part or whole, to offset the project impacts.

Should the PRM continue to be an option for compensation, EPA recommends additional documentation be provided to explain and support how the onsite option is more effective, appropriate, sustainable and likely to succeed. EPA also recommends the Compensatory Mitigation Plan (CMP) be designed to fully offset the functional losses occurring onsite and meet the requirements of the 2008 Mitigation Rule (see Section 230.93). The CMP must include the twelve items described at Section 230.94(c)(2) through (c)(14). EPA recommends revising the CMP so that it is consistent with the Mitigation Rule and clearly demonstrates that the compensatory mitigation undertaken will offset the loss of aquatic functions. Specific recommendations are included in the below list.

1. Although the mitigation plan includes success criteria, they are not of sufficient detail to determine success of the mitigation, especially for establishing streams in uplands. The success criteria, or performance standards should be observable and measurable biological, chemical, and physical criteria with defined ranges of values. EPA recommends revising the plan to include clear performance standards related to the goals of the mitigation and the chemical, physical, and biological functions of the aquatic resources to be mitigated to fully offset those same functions lost as a result of the project.
2. EPA also recommends that the adaptive management plan be developed to address what action would be taken if the site fails to meet the performance standards. Corrective actions identified in the adaptive management plan should be specified for common problems at mitigation sites, such as, but not limited to, inadequate or excess hydrology, invasive species colonization, and herbivory. Should the mitigation fail to perform, EPA also recommends developing another compensation method such as purchasing mitigation bank or WV In-Lieu Fee credits.
3. Also, EPA supports the statement of monitoring for 10 years to ensure the mitigation is functioning and offsetting project impacts.
4. The Long-Term Maintenance Plan and Financial Assurance sections have minimal information and do not appear to be consistent with the 2008 Mitigation Rule. EPA recommends this information be updated so that it is consistent with the Rule and is held to the same standard as Mitigation Banks and WV In-Lieu Fee Program.
5. EPA has reviewed the provided West Virginia Stream Wetland Valuation Metric (SWVM) forms and is providing the following comments.
    a. Currently, the project debits are calculated based upon temporal loss construction of values ranging between 6 and 7. However, the documentation indicates that Phase II bond release may happen at year 7 and Phase III bond release at year 9. EPA recommends clarifying the temporal loss construction and using the appropriate value in the SWVM to generate project debits.
    b. Also, it is not clear if streams reestablished or established in uplands will in fact offset the functions of the streams being impacted. For example, the mitigation at maturity column in the SWVM has values less than the baseline information in the SWVM. EPA recommends additional information be provided to explain how this represents a functional replacement or is more ecologically preferable than purchasing credits from a mitigation bank.